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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,873	07/24/2003	Shigeo Kigo	P23801	9272
7055	7590	01/23/2006	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			ABDULSELAM, ABBAS I	
			ART UNIT	PAPER NUMBER
			2677	

DATE MAILED: 01/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/625,873	KIGO ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Abbas I. Abdulsalam	2677	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/868,660.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/18/05</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to a communication filed on 11/07/05. Claims 1-18 are pending. In light of applicant's argument filed on 11/07/05, the following non-final action is issued.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai (USPN 6011355) in view of Miermans (USPN 6157179).

Regarding claim 1, 3, 8, 10 and 15-18, Nagai teaches a driving circuit that drives a display panel having an electrode, (Fig. a (1)) comprising: a switcher connected to a power supply; (Fig. 1(22a, 22b, Vcc) and interconnector connected to said switcher; and an inductance component of said interconnector, wherein a potential of said power supply is applied to the electrode of the display panel through said switcher and said interconnector. See col. 11, lines 65-66, col. 12, lines 1-36 and Fig. 15 (12).

Nagai does not specifically teach a frequency reducer. Nagai on the other hand teaches that when the inductance L is set to the value L<sub>3</sub>, the resonance frequency is the lowest and the Q-value is the highest. See col. 5, lines 38-65 and Fig. 36.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to manipulate inductance values with respect to Fig 1 to obtain the desired frequency.

Nagai does not teach a connection of a capacitance device in parallel with a switching device to shift a resonance frequency of an LC resonance generated at the time of a transition of transistors from an OFF state to an ON state.

Miermans on the other hand teaches a switching element is arranged to form a series or parallel resonant circuit including the capacitance and the inductance with a resonance frequency being selected independently (col. 3, lines 1-32) (for example, see Fig. 7C, where in a second position of the dual-position switch 5,S, the capacitor C and the inductor L are arranged in a parallel resonant circuit).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagai's display system shown in Fig. 4 to adapt Miermans use of parallel resonant circuit with a switch S and capacitor in parallel arrangement as demonstrated in Fig. 7 because both Nagai and Miermans teach about plasma display systems (see Miermans' col. 11, line 53) and one of ordinary skill in the art would have looked toward Miermans for the manner by which transistors are configured.

Regarding claims 2, 6, 9 and 13, Nagai teaches a driving circuit that drives a display panel having an electrode, (Fig. a (1)) comprising: a switcher connected to a power supply; (Fig. 1(22a, 22b, Vcc) an interconnector connected to said switcher; and an inductance component of said interconnector to a level less than 30 MHz, wherein a potential of said power supply is applied to the electrode of the display panel through said switcher and said interconnector.

Nagai does not specifically teach a frequency reducer with respect to a reduction level of less than 30MHZ.

Nagai on the other hand teaches the reactive power recovery efficiency with respect to circuit in FIG. 33, and uses an equation to the reactive power  $P_0$  caused by the panel capacitance 12 having a capacitance value  $C_p$  as  $P_0 = f \times C_p \times V_{cc}^2$  (squared) where  $f$  is the frequency of charging and discharging per unit time. See col. 4, lines 40-54

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize Nagai reactive power  $P_0$  equation for the purpose of setting the desired level of frequency.

Nagai does not teach a connection of a capacitance device in parallel with a switching device to shift a resonance frequency of an LC resonance generated at the time of a transition of transistors from an OFF state to an ON state.

Miermans on the other hand teaches a switching element is arranged to form a series or parallel resonant circuit including the capacitance and the inductance with a resonance frequency being selected independently (col. 3, lines 1-32) (for example, see Fig. 7C, where in a second position of the dual-position switch 5,S, the capacitor C and the inductor L are arranged in a parallel resonant circuit).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagai's display system shown in Fig. 4 to adapt Miermans use of parallel resonant circuit with a switch S and capacitor in parallel arrangement as demonstrated in Fig. 7 because both Nagai and Miermans teach about plasma display systems (see Miermans' col. 11,

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line 53) and one of ordinary skill in the art would have looked toward Miermans for the manner by which transistors are configured.

Regarding claim 4, 5, 7, 11-12 and 14, Nagai teaches driving circuit that drives a display panel having an electrode, comprising: a switcher connected to a power supply; (Fig. 1 (22a, 22b, Vcc) a first interconnector connected to said switcher; a protector connected to said power supply; a second interconnector connected to said protector and said first interconnector; and an inductance component of said second interconnector, col. 11, lines 65-66, col. 12, lines 1-36 and Fig. 15 (12), wherein a potential of the electrode of the display panel is brought to a level that does not exceed a potential of said power supply through said protector and said second interconnector (Fig. 4 (107a ) 102).

Nagai does not specifically teach frequency reducer. Nagai on the other hand teaches that when the inductance  $L$  is set to the value  $L_3$ , the resonance frequency is the lowest and the  $Q$ -value is the highest. See col. 5, lines 38-65 and Fig. 36.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to manipulate inductance values with respect to Fig 1 to obtain the desired frequency.

Nagai does not teach a connection of a capacitance device in parallel with a switching device to shift a resonance frequency of an LC resonance generated at the time of a transition of transistors from an OFF state to an ON state.

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Miermans on the other hand teaches a switching element is arranged to form a series or parallel resonant circuit including the capacitance and the inductance with a resonance frequency being selected independently (col. 3, lines 1-32) (for example, see Fig. 7C, where in a second position of the dual-position switch 5,S, the capacitor C and the inductor L are arranged in a parallel resonant circuit).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nagai's display system shown in Fig. 4 to adapt Miermans use of parallel resonant circuit with a switch S and capacitor in parallel arrangement as demonstrated in Fig. 7 because both Nagai and Miermans teach about plasma display systems (see Miermans' col. 11, line 53) and one of ordinary skill in the art would have looked toward Miermans for the manner by which transistors are configured.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Abbas I. Abdulsalam whose telephone number is (571) 272-7685. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300..

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Abbas Abdulsalam

Examiner

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January 17, 2006

AMR A. AWAD  
PRIMARY EXAMINER  
*Amr A. Awad*